

**Contribution to the knowledge of Argentina's parasitological fauna
XVII. Spirurida (Nematoda) from Neotropical Cricetidae :**

***Physaloptera calnuensis* n. sp.
and *Protospirura numidica criceticola* Quentin, Karimi
and Rodriguez de Almeida**

by Carola A. SUTTON

Abstract. — The purpose of this paper is to present two species of Nematoda collected from Cricetidae during a study on rodent parasites. One of them is a new species of *Physaloptera* and described herein. The other one is a species already known as belonging to the Brazilian fauna, species that is described, and for which additional geographical records are given.

Résumé. — Deux espèces de Nématodes trouvées chez des Cricétidés provenant d'Argentine, du Pérou et de l'Uruguay sont étudiées : une nouvelle espèce du genre *Physaloptera*, *P. calnuensis* n. sp., parasite de *Calomys laucha* en Uruguay, et *Protospirura numidica criceticola* Quentin, Karimi et Rodriguez de Almeida, 1968, déjà connue comme parasite de Rongeurs Cricetidae de la faune brésilienne ; de nouveaux hôtes sont donnés pour l'espèce et sa répartition géographique est étendue à l'Argentine et au Pérou.

Resumen. — En este trabajo se dan a conocer dos especies de nematoda que fueron hallados parasitando cricétidos provenientes de Argentina, Peru y Uruguay. Una de ellas es una nueva especie del género *Physaloptera*, parásita de *Calomys laucha* de Uruguay. La segunda especie, *Protospirura numidica criceticola* Quentin, Karimi y Rodriguez de Almeida, 1968 conocida como parásita de roedores cricétidos de la fauna Brasileira, queda citada aquí como parásita de nuevos hospedadores a la vez que se extiende su distribución geográfica a Argentina y Perú.

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METHODS

Nematodes were collected from the stomachs of the rodents, from viscera preserved in 10 % formol.

Stomachal content was examined using a dissection microscope. Nematodes were stored in 70 % ethanol. Drawings were made with the aid of a camera lucida from specimens cleared for study intemporary wet mounts in lactophenol and chlorallactophenol. In the descriptions, measurements are given in millimetres unless otherwise stated. En face views were mounted and studied in lactophenol.

***Physaloptera calnuensis* n. sp.**

(Pl. I)

HOST : *Calomys laucha* (Desmarest).

LOCATION : Stomach.

MATERIAL EXAMINED : ♂ Holotype, ♀ Allotype and 1 ♂ Paratype, col. Helm. MLP, n° 1348 B; 1 ♂ Paratype, MNHN Paris, n° 407 HC.

LOCALITY : Colonia España, Bella Unión, Dep. Artigas, Uruguay.

ETYMOLOGY : From the name of the establishment where hosts were captured.

DESCRIPTION

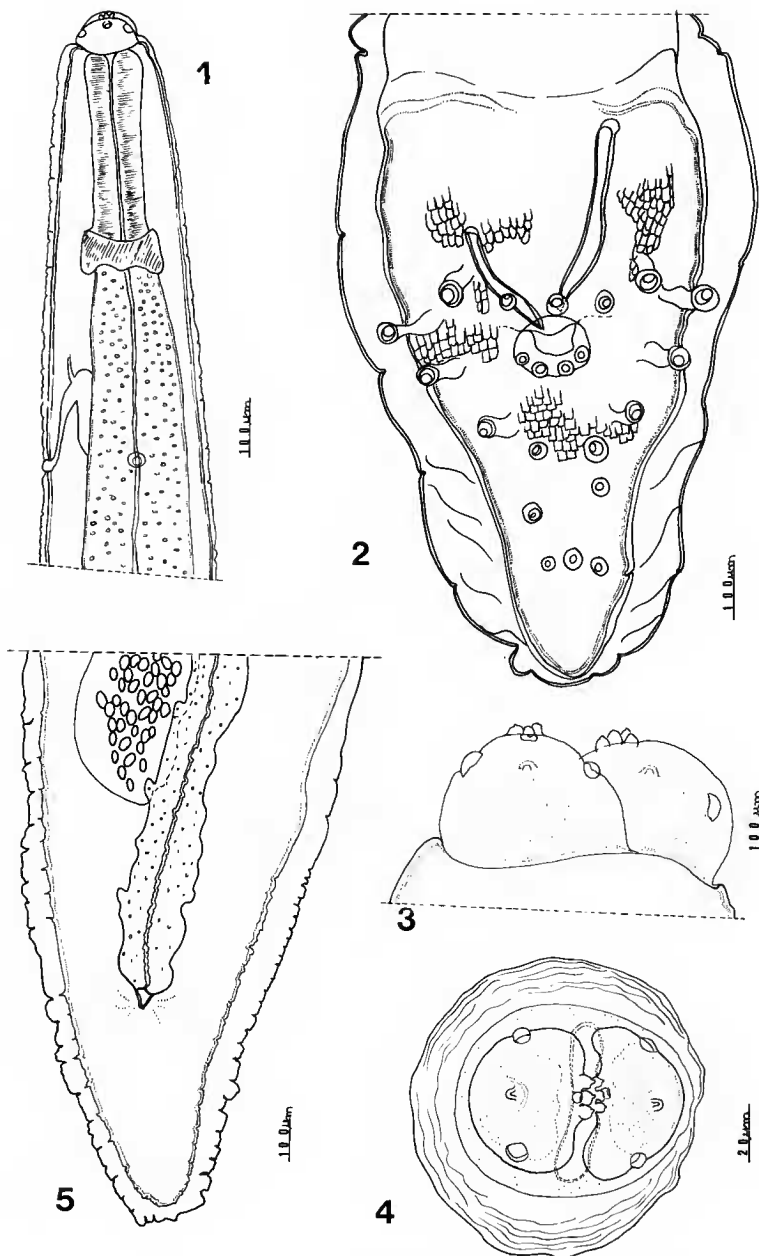
Body broad. Cuticle thick and annulated with prominent transverse striations. Cuticular ring at the base of the head. Mouth surrounded by two large lateral pseudolips of cuticular contour. Each lip bears two submedian papillae and an amphid at their base and, on middle superior margin, a group of four dentiform lobes apically rounded and quadrangular at base. Their disposition is typical *i.e.* 3 internolateral, resembling a trident, and one externolateral (pl. I, 4). Bucal cavity laterally compressed.

Male (holotype) : 17,1 long and 0,61 thick. Nerve ring, excretory pore and deirids situated at 0,34, 0,80 and 0,95 from apex. The head attains a maximum diameter of 0.10. Muscular oesophagus short 0,33 long. Glandular oesophagus 2,99 long. Intestine straight. Tail short 0,58 long. Bursa large and lanceolate with scalloped edge. Ventral surface excavated, with numerous and irregular longitudinal cuticular markings that extend from 0,40 anterior to cloaca to level of posterior pair of papillae. Caudal alae well developed and with lateral borders connecting anteriorly across surface, 0,47 from cloacal aperture. There are 10 pairs in addition to two unpaired caudal papillae, that according to CHABAUD *et al.* (1961) can be described as follows : pairs 1, 2, 3 and 7 stalked, thick and equidistant from each other, pair 4 sessile and anterior to cloacal aperture, pairs 5 and 6 in row and close to posterior margin of cloaca, pairs 8, 9 and 10 sessiles. One unpaired papilla between 4th pair, and another one between pair number 10. Phasmids anterior to 10th pair (pl. I, 2). Spicules unequal and bent. Left spicule 0,42 long and 0,034 wide. Right spicule 0,31 long by 0,03 wide. Tail 0,59.

Female (allotype) : 28,07 long and 0,99 thick. Nerve ring, deirids and excretory pore at 0,38, 0,77 and 0,78 from apex. Muscular oesophagus 0,39 long; glandular oesophagus 3,32 long. Anus 0,52 from posterior extremity. Tail end rounded. Vulva prominent with an elevated margin, 12,28 from posterior extremity. Eggs elliptical and thick shelled, contain embryo when oviposited, and measure 39,1 by 19,1 μm in diameter.

DISCUSSION

Taking into account cephalic ornamentation, distribution and number of caudal papillae of the species under study, there is no doubt that it is a member of the genus *Physaloptera* Rudolphi, 1819.



PL. I. — *Physaloptera calnuensis* n. sp. : 1, male, oesophageal region, lateral view ; 2, male, bursa, ventral view ; 3, male, anterior extremity, sublateral view ; 4, male, mouth opening, apical view ; 5, female, posterior extremity.

Within the neotropical region and up to where our knowledge permits us to state, this genus includes more than 20 species that parasite all major groups of terrestrial vertebrates, of which four have already been reported as found in Brazilian rodents :

- P. muris-brasiliensis* Diesing, 1861, from "*Muris brasiliensis*", identified by DRASCHE (1882) as *Holochilus brasiliensis* (Desmarest) and redescribed by ORTLEPP (1922);
P. bispiculata Vaz & Pereira, 1935, from *Nectomys squamipes* (Brants);
P. torresi (Travassos, 1920) Ortlepp, 1922, from *Agouti paca* Linné, and *Dasyprocta aguti* (Linné), (McCLURE, 1932), locality not given;
P. longispicula Quentin, 1968, from *Cercomys cunicularius* Cuvier.

Comparing our specimens with above, and taking into account size of spicules, we notice that they attain characteristics that may be considered, such as QUENTIN (1969) does, typical of those *Physaloptera* species that parasite american rodents. An exception to this statement is *P. longispicula* Quentin, 1969 that although similar in caudal papillae distribution, differs in spicular length and lacks and unpaired caudal papilla.

In relation to the other three species mentioned, ours closely resembles *P. muris-brasiliensis*, but from which it differs by the following : position of unpaired caudal papilla, that is situated between last pair of papillae, position of fourth pair of stalked papillae at level of posterior margin of cloaca and size of spicules, unequal in former species and equal in latter.

Consequently our specimens are considered as belonging to a new species that is named *Physaloptera calnuensis* n. sp.

Protospirura numidica criceticola Quentin, Karimi y Rodriguez de Almeida, 1968

(Pl. II)

HOSTS : *Akodon azarae azarae* (Fischer); *Akodon jelskii* (Thomas); *Akodon boliviensis* Meyen.

OTHER HOSTS : *Bolomys lasiurus* (Lund); *Calomys callosus* (Rengger).

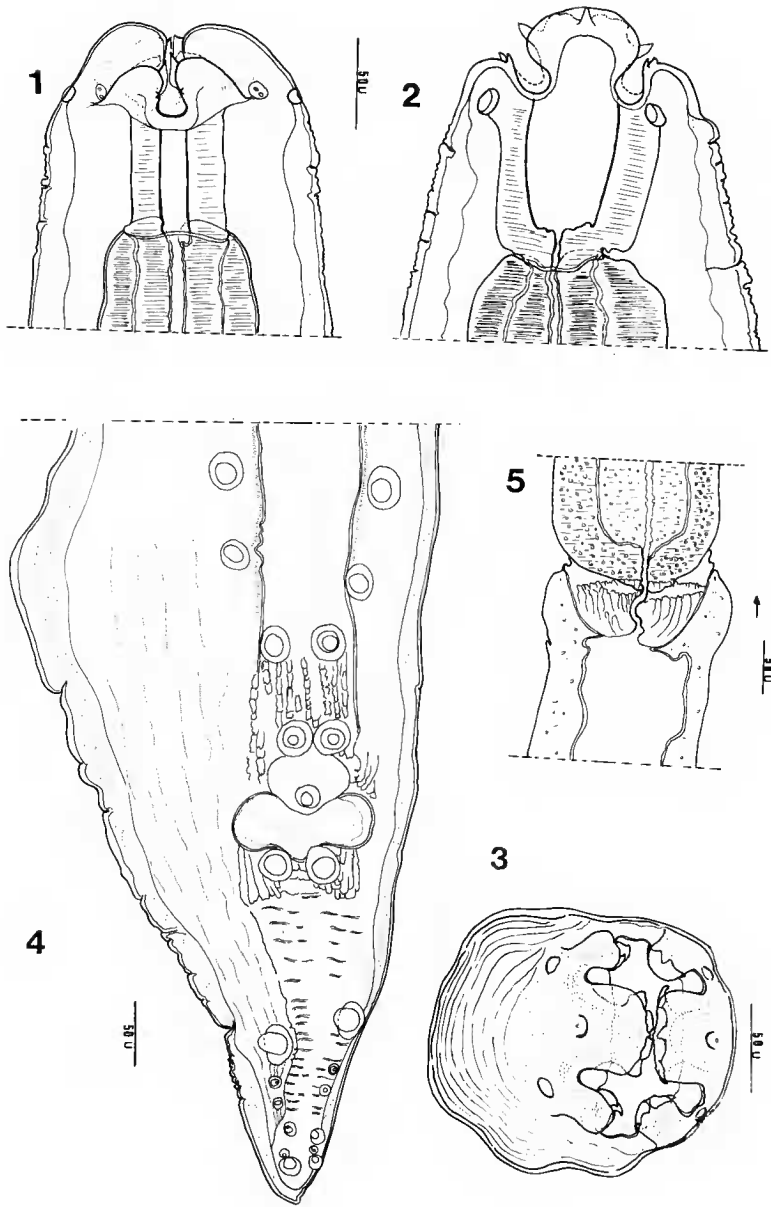
LOCATION : Stomach.

MATERIAL EXAMINED : (1) from *Akodon azarae azarae* : 1 ♂, Laguna Alsina, Pdo Guaminí, Col. Helm. MLP. 1283 B; 2 ♀, Pdo Villarino Cuartel 6, Col. Helm. MLP. 1404 B, both from Buenos Aires, Argentina. (2) from *Akodon boliviensis* : 1 ♂, 1 ♀, Checayani, Peru, MNHN Paris, N 125, 605 F. (3) from *Akodon jelskii* : 1 ♂, 7 ♀, Checayani, Peru, N 125, 616 F.

DESCRIPTION

Large and thick nematodes with densely striated cuticle. Mouth surrounded by two large lateral pseudolabia, each deeply incised to form three rounded lobes, the central one being the largest and most prominent, which bear teeth on inner surface (pl. II, 1, 2, 3). Mouth well developed. Cephalic disc with four pairs of papillae, one at the base of each small lobe, near its union with the large central one, plus the pair of amphids.

Male : 15,76-23,40 long and 0,36-0,48 thick. Deirids, nerve ring and excretory pore situated at 0,195-0,23; 0,34-0,41 and 0,48-0,56 from the anterior extremity of the body. The



PL. II. — *Protospirura numidica criceticola* Quentin, Karimi y Rodriguez de Almeida, 1968 : 1, male, anterior extremity, ventral view ; 2, male, anterior extremity, lateral view ; 3, male, apical view ; 4, male, bursa, ventral view ; 5, male, oesophageal bulbe.

head attains a maximum diameter of 0,090. Pharynx 0,060, long, heavily lined with chitin. Muscular oesophagus, 0,128-0,38 long, glandular oesophagus 3,13-3,84 long, and connects with the intestine by a large valve (pl. II, 5). Intestine straight and with fairly uniform diameter up to union with cloaca. Posterior extremity of the body coiled in one turn with thick bursal alae. Tail short and conical. Posterior ventral surface concave with thick, irregular elongate cuticular markings which disappear progressively as from cloacal aperture and separated from lateral areas by lateral alae, which form a thick border. Cloacal aperture 0,27-0,31 from tip of tail. Spicules arched and unequal. Right spicule slender and filiform with chitinous lamellae at distal extremity, 1,16-1,37 long. Left spicule short and thick 0,34-0,48 long with chitinous lamellae covering it. Both spicules with infundibular proximal dilatation. Gubernaculum 0,10-0,13 long. Four pairs of large preanal papillae close to median line, of which the fourth pair is close to an unpaired papilla on the anterior edge of the cloacal aperture; two big pairs and four small pairs of post anal papillae. Six first pairs and unpaired papillae very prominent (pl. II, 4). Phasmids close to last pair of papillae.

Female : 15,28-30,41 long and 0,40-0,57 thick. Deirids, nerve ring and excretory pore situated at 0,165-0,22; 0,26-0,40 and 0,36-0,56 from apex. The head attains a maximum diameter of 0,095. Pharynx long and heavily lined with chitin. Muscular oesophagus 0,25-0,40 long; glandular oesophagus 2,7-3,76 long, that communicates with rectilineal intestine by a large valve. Anus at 0,22-0,61 from termination of tail. Tail short and with blunt ending. Vulva in second body half 5,93-10,95 from posterior end. Ovijector long. Eggs elliptical with thick shell and embryo when oviposited; $33,75-37,5 \times 37,5-56,26 \mu\text{m}$ in diameter.

DISCUSSION

These specimens show all the characteristics concerning *Protospirura numidica* Seurat, 1914, especially those which refer to the morphology of pseudolabia and disposition of cloacal papillae, except the size of the right spicule (1,16-1,37) which is superior to the one given by SEURAT.

QUENTIN *et al.* (1968) found this species parasitizing Brazilian Cricetidae *i.e.* : *Bolomys lasiurus* and *Calomys callosus*. When comparing their specimens with those described by SEURAT and other authors in different host species, QUENTIN *et al.* noticed that these and all other American ones bear large spicules.

This peculiarity led these authors to consider a new subspecies for their specimens and proposed the inclusion in it of all American ones.

In this case we have found SEURAT's species in *Akodon azarae azarae*, *Akodon jelskii* and *Akodon boliviensis*, three Cricetidae not known up to now as hosts, with characteristics that coincide with those reported by QUENTIN *et al.*, as pertaining to the American specimens.

We accept their proposal and consider ours as *Protospirura numidica criceticola* Quentin, Karimi y Rodriguez de Almeida, 1968, for which new geographical and host data are given.

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